

The financial case for an AI workforce in providers' revenue cycle operations



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Executive summary

This paper addresses a key question for healthcare leaders: with limited resources to invest in AI workforce solutions, is prioritizing revenue cycle management (RCM) the right choice?

That is, why consider RCM as a priority use case for AI?

RCM operations have long been a focus for operational improvement efforts.¹ But in the last 1-2 years, rapid growth and increased investment in AI-driven technology companies and tech-enabled services have created new opportunities to support RCM teams and drive better performance.²

Leaders may ask: are there **new sources of value** to be tapped here?

Based on our research, yes. The potential for additional financial impact from an AI workforce is **substantial**. Previous generations of technology have not fully solved known problems, leaving teams to manage a high volume of manual, repetitive processes. AI-driven technologies are able to augment human efforts in ways that were not possible five years ago. And some complex tasks are now fully automatable and can be handled end-to-end by an "AI workforce".

Through cost reductions and revenue uplift, healthcare providers and billing companies can achieve **significant margin expansion**. Using AI workforce resources in place of human time and effort leads to **labor cost savings**. There are also potential revenue opportunities from redirecting human energies to **reduce revenue leakage**, aided by an AI workforce to target efforts precisely and manage risk throughout the revenue cycle.

The bottom line is that any investment in AI should be focused **where there is a sufficient ROI for your organization**. Therefore, understanding the potential financial impact across different levers, relative to your current baseline, is crucial.

In this paper, we lay out the potential **cost, revenue, and cash flow implications** of AI workforce solutions in RCM operations and help you to size the opportunity as you develop business cases for AI initiatives. Figures provided are estimates that do not reflect the cost associated with vendors, technology, or implementation.

Aggregating all financial drivers at healthcare providers, **margin improvement of 85-500 basis points** (depending on baseline performance) appears achievable by leveraging the latest advancements in AI workforce and ensuring a high degree of execution. We detail an example scenario with an ~250 basis point opportunity and also provide a [companion tool](#) that you can use to tailor assumptions to your circumstances. **Please request access through the link to use the tool.**

Billing companies stand to benefit by as much or more (weighted more heavily toward cost), depending on their starting point with automation and labor costs.

Context

RCM operations, often included among the “back office” administrative functions of healthcare providers or outsourced to billing companies, are a critical function for the financial health of any provider.

Healthcare leaders have already seen significant impact in RCM from previous generations of technology (primarily EDI-based electronic transactions, RPA bots, and native functionality of EMR systems). CAQH estimated in 2023 that these streamlining efforts had already unlocked \$193B in annual value across the healthcare system.³

Yet as AI companies have built new capabilities including large language models, computer vision, and more, RCM has emerged again as a high-potential use case for AI in healthcare. Accordingly, venture capital⁴, private equity⁵, and health systems themselves⁶ are funding development of new AI-driven solutions for RCM, particularly AI workforce or agentic⁷ AI solutions that seek to replicate the often complex and time-intensive work humans perform today.

Structurally, there are several reasons to continue to prioritize RCM as an AI use case:

-  **High spending:** A McKinsey analysis estimated hospitals in the US spend \$40B on RCM and related expenses, representing 4.25% of overall revenue.⁸ Across all sub-sectors (including payor-facing capabilities), the total market size is estimated to be over \$140B.⁹ As a point of reference, this means the US-only RCM market is already as large today as the global market for obesity drugs is expected to be in 2035.¹⁰
-  **Sustained growth:** The RCM outsourcing market as a whole is expected to continue to grow at over 11% through 2030¹¹, fueled by increasing complexity and a challenging reimbursement environment.
-  **Persistent inefficiency and poor performance:** Claims processing and prior authorization are consistently identified as prime opportunities to improve efficiency.^{8,9} A 2024 survey of health system executives found that very few providers feel their RCM processes are fully optimized and about one-fifth say their performance has deteriorated since 2019.⁹
-  **High complexity:** RCM involves thousands of payors with distinct, frequently changing rule sets, creating a large volume of structured and unstructured data. A JAMA review estimated administrative complexity leads to \$265B in waste throughout the healthcare system, equivalent to 7% of US healthcare spending.¹²
-  **Favorable risk profile:** Back office use cases typically carry lower risk than clinical applications for potential impact on safety and care quality.
-  **Driven by labor costs:** Addressing labor costs can yield additional advantages:
 - Creating potential for teams to operate at the “top of their license” and free up expertise to use for process redesign or other strategic initiatives.
 - Potential additional benefits from limiting turnover, preserving institutional memory, and avoiding costs to recruit and retain.
 - Hedging against future growth in labor expenses (e.g., health benefits).

Despite these factors, the quantifiable financial impact of deploying an AI workforce in RCM remains unclear for many leaders considering investments in this area, particularly outside well-established functionalities like claims statusing or autonomous coding.¹³

Methodology

In this paper we investigate, from the perspective of a healthcare provider or billing company, the potential sources of financial impact and potential drivers of ROI for AI workforce solutions in RCM operations. We have conducted a review of publicly available information and incorporated expert guidance from RCM leaders at health systems and billing companies to inform our findings. We note two limitations: an overall lack of robust peer reviewed literature and longitudinal evidence on this topic, with most data coming from case studies, and inconsistent definitions for key terms and concepts. Accordingly, we have structured this paper to indicate all possible impacts and provided ranges and estimates where concrete figures are not readily available.

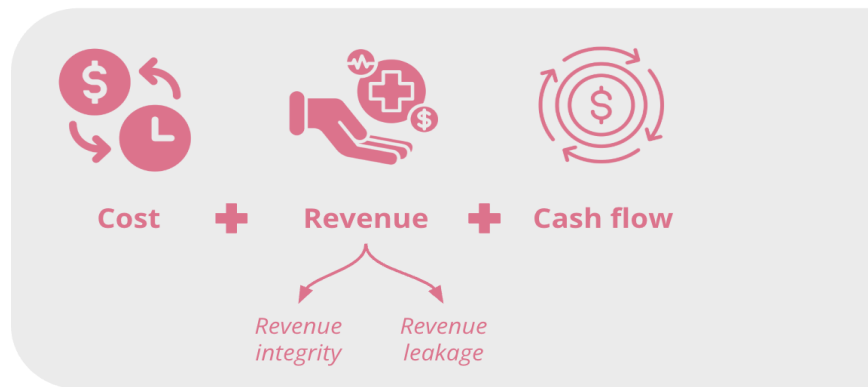
This work was supported by [Outbound AI](#). [Prova Health](#), a research and consulting firm, is responsible for the content of this paper and conducted independent analysis to develop the conclusions.

Financial impact of RCM operations

Taking a step back and putting the question of AI to the side for a moment, how might RCM operations impact financial statements in general?

There are three main impacts. First, RCM processes have a cost. Second, depending on how successful those processes are, they will result in revenue being collected. And last, depending on how quickly that revenue comes in, there will be an impact on cash flow.

Cost is typically rolled up into a single metric: “cost to collect”. This is the total expense required to bring in revenue.



The impact on **revenue** is multifaceted, with two main responsibilities for RCM teams:

- Ensuring **revenue integrity**. RCM teams (working in concert with clinical teams) need to make sure everything that should be billed is actually billed. If they are successful, there will be no missed procedures or codes.
- Avoiding **revenue leakage**. RCM teams are responsible for ensuring everything that should have been collected was collected in a timely fashion. If they are successful, there will be no bad debt, avoidable write-offs, or aged (overdue) accounts receivable.

Cash flow is impacted through payment processing and revenue recognition. RCM teams (working in concert with finance teams) need to make sure the mechanics of

receiving and booking payments are working as they should. If they are successful, there will be no unnecessary delays.

In the next section, we detail how each of these financial impacts works, explain common scenarios where an AI workforce can make a difference, and lay out a framework for sizing opportunities.

Opportunity for financial improvement (cost)

AI workforce solutions can reduce cost to collect by reducing the total cost of RCM operations as a percentage of every dollar collected.

What is included in cost to collect? The primary driver is **labor cost from the time required to deliver on RCM responsibilities**. These are typically divided into three parts. First, **front-end** RCM, which includes everything up to the date care is provided, including insurance eligibility and prior authorization. Second, **mid-cycle** RCM, which includes coding and charge entry. And last, **back-end** RCM, which includes accounts receivable (A/R) management and payment processing.

Denials and A/R management are a significant portion of the total cost to collect. These processes often incur hidden costs by requiring support from clinical teams for appeals, which diverts their time from patient care and is not always captured in RCM metrics.¹² Process failures that occur earlier in the RCM operations flow then require significant rework when claim denials happen.

How much is the typical cost to collect? There is significant variation depending on the precise definition and scale of the provider, but generally will be between 2-7% of net patient revenue.¹⁴⁻¹⁶



If you are a healthcare provider who has completely outsourced your RCM operations, then the cost of your vendor is your cost to collect. If you are insourced or a billing company, your cost to collect is all of the expense directly related to delivering on RCM responsibilities for yourself or your clients.¹⁷

Labor costs from RCM teams are the principal driver of cost to collect. However, cost to collect includes all related teams and technology and is a key financial metric to understand in relation to the overall revenue of your organization. If you can reduce labor spending without affecting the revenue collected, your cost to collect will improve. Similarly, if you can keep labor spending flat while your patient volume grows (and RCM workload grows), your cost to collect will also improve. We have included three examples ([Appendix 1](#)) to illustrate this.

How do RCM teams spend their time? Despite advances in technology over the last few decades, RCM teams still spend a significant amount of time performing **time-intensive, repetitive, manual** tasks, including:

- ■ ■ **Calling insurance companies:** dialing, navigating phone trees and IVR systems, entering data to phone systems (e.g., NPI, Tax ID, Member number, Member DOB), waiting on hold, escalating issues and transferring calls across teams, documenting call outcomes and IVR information into systems of record
- ■ ■ **Using insurance web portals:** navigating to websites, managing logins, filling out forms and questionnaires, uploading documents, asking questions of

chatbots and waiting for responses, copying data from websites into systems of record

Managing documentation: sending letters and documents by mail or fax, reconciling information from multiple sources (e.g., finding and filing EOBs)

Reviewing written documents: searching for relevant information about payor rules in medical policies, reviewing patient charts for specific details, reading payor correspondence to understand next steps

Human work is concentrated on a subset of the overall claims. In the best case scenario, very little human attention is required at any point in the revenue cycle process. Many claims however, require intensive investment and skew the cost to collect higher, requiring repeated attention and follow up. We provide two illustrations ([Appendix 2](#)) of the stark difference between best-case and worst-case scenarios.

In reality, most claims will fall somewhere between these extremes, with a set of claims requiring relatively little work and a set of claims requiring more human time to resolve. Many providers experience significant cost from dealing with “complex claims” with a 2025 survey of health systems estimating a \$57 average cost for managing each denied claim.¹⁸

There is a significant cost-saving role for AI. Anywhere RCM teams are performing tasks that can be done either (a) faster with the help of augmentative AI or (b) by an autonomous AI agent or an AI workforce instead of a human there will be an opportunity to reduce labor spending or reorient the team to take on more strategic, human-centric tasks.

Time studies of revenue cycle teams suggest that AI workforce could reduce the human time required for most roles by 50% or more.



How much work can be delivered by an AI workforce? This is a rapidly evolving area, especially as the capabilities of the AI workforce improve. A 2024 Deloitte analysis suggested that as much as 42-50% of time spent by revenue cycle professionals could be saved

through the appropriate use of technology.¹⁹ More work is needed to understand what the total opportunity could be, but early surveys have suggested that automation is associated with a 0.25% reduction in cost to collect (equivalent to a 5-10% cost reduction).¹⁵

Overall, we anticipate that this lever could lead to **40-200 basis points** of margin improvement, a substantial reduction in the average cost to collect (typically 200-700 basis points.) Our experience and the heavy burden of implementation and change management that cost reductions are likely to be in the 20-40% range rather than the full 50% or more. Targeted implementations on specific job duties may be higher. The primary mechanism for cost savings will be speeding up work on complex claims that currently drive a significant portion of labor cost.

What to do with the time savings? Most RCM teams are already overstretched and cannot address all potential work.²⁰ Therefore, leaders must decide whether the primary goal is reducing the RCM team's overall size and cost or enabling them to

pursue more revenue, particularly for healthcare providers themselves (see following section).²¹

For billing companies that see only a portion of the increased revenue returned in fees, the cost savings opportunities for an AI workforce are likely to be the more compelling value driver. However, revenue opportunities can also play a role if contracts are structured on a performance basis (e.g., a percentage of collections).

What are humans best placed to do in revenue cycle operations? AI workforce capabilities continue to evolve, so as AI workforce delivers more of the output, what will human teams be doing? Generally speaking, there will still be a significant amount of complexity to manage across the many payors, clinical circumstances, and geographical nuances of healthcare. Revenue cycle teams (which will likely be smaller than today) will be able to focus on more strategic tasks, including:

- **Prioritizing and triaging emerging issues:** performing root cause analysis and implementing corrective actions
- **Identifying revenue opportunities:** gaining new insights through professional development (e.g., changes to coding), analyzing trends in reimbursement and recommending process or policy improvements
- **Enhancing patient access:** working with patients to understand how they can access care given their clinical and financial circumstances (e.g., explaining cost estimates and setting up payment plans)
- **Clinical education:** collaborating with clinical teams to help them understand the financial impact of their decisions (e.g., procedure profitability)
- **Building win-win relationships with counterparties:** despite the often adversarial nature of payor-provider relationships, fundamentally both sides are working in the same ecosystem and both sides can benefit from better communication and efficiencies

Opportunity for financial improvement (revenue)

Revenue overview

We note two major opportunities for impact from a revenue standpoint. Before going into detail, it is important to emphasize a key point: if the AI workforce simply takes over work that human teams were capably performing already, it may not necessarily lead to any revenue uplift. As we discussed earlier, there may well be a cost impact from replacing human teams with an AI workforce. But the following discussion of revenue opportunities should be taken in the context of assuming either:

- (a) AI workforce will enable or perform work that was previously *not being done at all*, or;
- (b) AI workforce will enable or perform work that was previously *being done, but not as well as it should have been, and do it better: more accurately or more consistently*.

Given typical performance, revenue uplift may be a significant driver of value; however, leaders should always be cautious when comparing it to current practice, rather than assuming that no one is currently performing these functions.

The two main revenue opportunities are **revenue integrity** (ensuring you are *attempting* to capture all the revenue you should) and **revenue leakage** (ensuring you are actually capturing 100% of the revenue you are attempting to collect in payments). The majority of our focus here is on revenue leakage which is a more purely administrative task but we briefly cover revenue integrity as well.

Revenue integrity

If RCM operations are not running smoothly, then you will not invoice (code and send claims for) all of the revenue you could because of poor documentation or workflows; you did the work, but are not billing for it. This may be at the level of an entire procedure or part of a procedure; for example, there are circumstances where the work that was performed may merit a higher code than is billed (for example, a Level 5 office visit vs. Level 4) or identifying higher-acuity codes for especially complicated hospital stays.

Coding is complex and often involves a degree of judgement. It can be challenging to determine what can be legally and compliantly billed for a given procedure, particularly since these rules vary by payor and often change. There are also circumstances where work is performed that is not billed at all because of a process failure.

We provide additional detail about revenue integrity and the potential role for an AI workforce to address in [Appendix 3](#). Overall, we expect the impact from this lever could reach **100 basis points**, in line with the impact seen from the prior generation of revenue integrity initiatives.

Revenue leakage

Assuming that everything that should have been billed was billed, there are many sources of “revenue leakage” that can still occur. Revenue leakage is typically caused by failing to complete necessary steps or payor-specific requirements for reimbursement. A well-known example of such a requirement is prior authorization. However, **prior authorization denials are just one of hundreds of reasons** why reimbursement could be lower than expected.

The total amount of revenue leakage is typically measured using the *net collections ratio*, which is the total actual payments divided by the total expected payments; benchmarks for net collections ratio suggest 95% as a goal.²² In practice, these can vary from less than 90% to 99% with lower numbers often associated with under-resourced organizations.



Many healthcare providers are losing 1-10%+ of collectable revenue, representing a significant opportunity for **margin expansion**.

There are many potential drivers of revenue leakage which can be categorized in many ways; here, our framework identifies 6 top drivers of revenue leakage:

1. **Unresolved claim denials due to payor rules:** Approximately 10-15% of claims are initially rejected or denied by insurance companies.²³ While most rejections are later accepted, a **substantial portion of denied claims are never collected**.²⁴⁻²⁵ Sometimes, these unresolved denials stem from internal RCM errors, such as a

lack of timely follow-up on appeals or inadequate awareness of the denial. In others, the team “does everything right”, but the denial persists. The target for improvement here is primarily anticipating payor objections and preventing issues before they happen, informed by historical data.

As an illustration of how the AI workforce can lead to revenue uplift, consider the lag time that is inherent in detecting errors. When claims sit unpaid without clear information on their status, before being written off, they are effectively in limbo. They might eventually be paid, but they haven't been paid yet. Human teams may not realize that a pattern is emerging leading to lost revenue for months or even years, but if these patterns are flagged by AI in hours to days, the potential to avoid re-work altogether is enhanced. Recall that new claims are being created every day, and if errors in today's claims can be prevented, higher revenue will quickly result. An AI workforce can enable human teams to focus on more sophisticated tasks like reviewing audit results, problem-solving fixes to broken processes, and making systems more robust and resilient.



2. **Unresolved claim denials due to upstream process failures and no response claims:**

The root causes of some claim denials are issues within the control of provider or RCM teams prior to submission, e.g., sending claim to wrong payor, missing timely claim filing deadlines, or entering incorrect codes on the claim. The target for improvement here is primarily internal performance management and automated checks.

3. **Unresolved patient-level claim denials:** There are various circumstances that are caused by something at the patient (rather than claim) level: for example, the member is not eligible for the date of service, a self-insured employer goes out of business, or there is a conflict between 3rd party payors (e.g., auto liability vs. medical insurance). The target for improvement here typically involves front desk and registration teams, informed by historical data.
4. **Patient balances and bad debt:** Often, after insurance pays, the remaining balance after insurance or self-pay is not collected. This balance can be written off or sent to collections agency (who will assess fees). Below a certain threshold, small balance write offs occur where it is not necessarily economical to follow up (e.g., spending 10 minutes of human time at \$30/hr. all in cost to collect a \$5 balance is financially net neutral). The target for improvement here is in the interaction between the organization and the patient personally.
5. **Underpayments vs. contracted rates:** These occur when a claim is not technically denied, but the payment amount is lower than it should be owing to an error in processing. Identifying these cases requires practices to audit payment amounts vs. fee schedules and payor rules to double-check payors' work. The target for improvement is not only in finding, but also efficiently correcting, underpayments.
6. **Payment processing failures:** claim is technically paid, but the deposit never arrives (e.g., wrong pay-to address, check never deposited). In some cases,

multiple payment runs are required (e.g., requesting EFT instead of virtual credit cards) which introduces complexity and manual effort. The target for improvement is primarily in the finance function, as it interfaces with RCM.

We have provided a detailed overview of the share of revenue leakage of each of these contributors, as well as a look into the role and potential of an AI workforce to address the problem ([Appendix 3](#)). Overall, we believe that this lever could drive **45-200+ basis points** of margin improvement, compared with 100-1000+ basis points of revenue leakage experienced today. Based on our research, improvements are likely to be in the 10-25% range overall, with targeted use cases reaching 50% recovery or more.

Opportunity for financial improvement (cash flow)

On top of potential financial impact from cost and revenue, collecting payments and recognizing revenue more quickly also provide an independent source of value for the AI workforce in RCM.

We see three primary mechanisms for driving value:

- ■ ■ **Doing the same work sooner:** An AI workforce may be able to perform sequential tasks in parallel (e.g., process a weekly claims worklist in 1 working day rather than 5), **eliminating delays from batch processing** and pulling forward payments
- ■ ■ Reducing **delays caused by lack of information** throughout the claims processing cycle; for example, finding out that a claim was denied and addressing same-day rather than waiting to find out through overnight batch processing or potentially by postal mail
- ■ ■ Enabling **faster payment posting** and resolution of outstanding “unpostables”; for example, reconciling disparate financial data sources across cash management and accounts receivable and finding missing documentation

Two common metrics for assessing cash flow performance in revenue cycle are time to first payment (TTP) and days in accounts receivable (DAR). Both of these metrics have drawbacks, but a general trend across case studies has seen improvements of 5-15 days from speeding up processing and eliminating errors that lead to long waiting times.²⁶

For consistency, we have estimated the time value of improved cash flow at **0-5 bps**, but for providers with limited days of cash on hand, the cash flow benefits will go beyond this figure.

Calculating financial opportunity

Because each organization's starting point will be different, we have provided a framework for engaging with different levers and adjusting assumptions. The following should be taken as a sector-wide foundation for sizing the opportunity, informed by our research and consultation with experts. Organizations should tailor the assumptions to their particular circumstances in evaluating opportunities.

The illustrative example is one we believe is realistic based on the current evidence base, but is highly dependent on individual circumstances. The **example provider** envisioned here has a low net collection ratio (90-93%) driven by a relatively high amount of process failure denials and poor protocols for patient balances and financial reconciliation. Patient registration is optimized, leading to few patient-level denials.

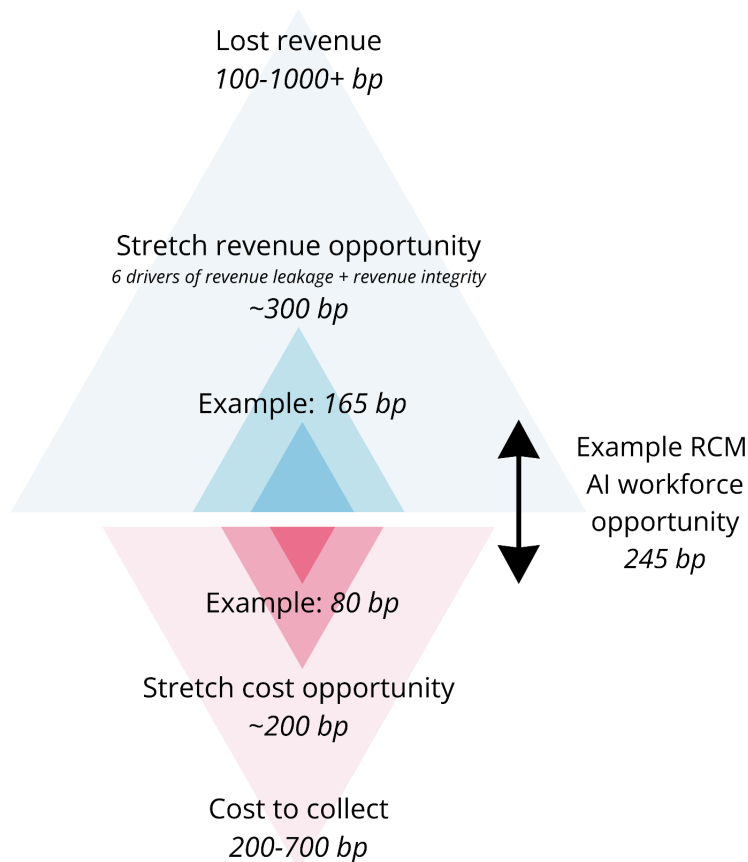
Basis points of margin impact from an AI workforce in RCM at a healthcare provider (100 bp = 1.0% of revenue)

Financial lever	Impact of AI workforce	Margin impact range	Example impact
Cost to collect	Reduce cost to collect for time-intensive claims by ~50% to align with automated claims today	40-200+ bps ¹	80 bps
Revenue integrity	Increase revenue by appropriate coding and charge entry	0-100 bps	25 bps
Revenue leakage total	Reduce lost revenue by improving net collection ratio	45-200+ bps ²	140 bps
#1 - payor rules denials	Recover 10-25% of this bucket (20-30% of lost revenue e.g., 100-150 bps)	10-40 bps	20 bps
#2 - process failure denials	Recover 25-50% of this bucket (10-50% of lost revenue e.g., 50-250 bps)	15-125 bps	50 bps
#3 - patient level denials	Recover 10-25% of this bucket (10-20% of lost revenue e.g. 50-100 bps)	5-25 bps	5 bps
#4 - patient balances	Recover 25-50% of this bucket (10-30% of lost revenue e.g. 50-150 bps)	15-75 bps	30 bps
#5 - underpayments	Recover 10-25% of this bucket (0-20% of lost revenue e.g., 0-100 bps)	0-25 bps	10 bps
#6 - payment processing	Recover 50-75% of this bucket (0-20% of lost revenue e.g. 0-100 bps)	0-75 bps	25 bps
Cash flow	Time value of money from 5-15 days earlier revenue collection	0-5 bps	0 bps
Total impact	Across all levers	85-500+ bps	245 bps

¹ Assumes that cost to collect can be reduced by 20-30% off a base of 2-7% (200-700 bps) with primary mechanisms being prevention of rework and significantly increased efficiency in processing complex claims that are not automated today (~50% of claims processed 40-60% faster). Reflects implementation risk versus theoretical gains of 45-50% across the board (Deloitte). Higher gains possible for organizations with significant challenges in cost to collect (e.g., 10%+ today)

² Assumes not all levers can be at high end of range (depends on distribution, severity, and root causes of lost revenue)

Visualizing the example opportunity



Implications for healthcare leaders

To return to the question we asked at the start: *why consider RCM operations as a priority use case for AI?*

As we have discussed, there are three principal levers for driving value through an AI workforce: **cost, revenue, and cash flow**. Within cost, there are opportunities across the function, with significantly different tasks happening in the front end, mid-cycle, and back end. Within revenue, there are at least seven different ways that employing AI could lead to revenue improvement, assuming that an AI workforce would take on new work or enable teams to perform tasks more effectively.

Leaders should hone in on specific opportunities within the RCM function. The ROI for healthcare organizations will vary depending on your baseline and the type of AI workforce use cases you pursue.

For leaders considering deploying an AI workforce in RCM, we recommend asking the following questions to align opportunities with your strategic needs and make a financially sound decision:

- Based on available data and your experience, what performance gaps in RCM exist, and what is the value of addressing those gaps?

- Are these gaps that an AI workforce can address autonomously, or will there be a human element involved? If a human needs to be involved, why are they not already doing so effectively? Is the barrier a lack of time due to competing priorities, or is it an information or skill gap that an AI workforce could help address?
- Are there repetitive, manual tasks being performed by skilled team members that could be offloaded to AI?
- ■ ■ If no serious gaps exist today, are there opportunities to work more efficiently and reduce cost in the RCM organization?
- ■ ■ What timeline to impact are you working toward, and what implementation risk exists in taking on a new initiative?
- ■ ■ How can you strengthen ROI calculations and de-risk initiatives to ensure there is a positive return?

It should be emphasized that **design of well-targeted initiatives is not enough**. Implementations of technology-enabled solutions in RCM operations have not always delivered on their promised returns. Lessons learned from these implementations require sustained commitment from leaders, realistic timelines, and an iterative approach to overcoming challenges to de-risk efforts.²⁷

Contact us

[Prova Health](#) is a consulting and advisory partner to healthcare innovators worldwide and conducted this independent research.

[Outbound AI](#) supported this work and is a leading AI workforce technology company focused on revenue cycle management.

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Appendices

Appendix 1: Examples to illustrate cost to collect

Example 1: Healthcare provider with revenue of \$80M and RCM team of 20 people

Labor cost from RCM team	\$1.60M
Billing system and partial outsourcing platform	\$1.00M
Billing integrity consultants	\$0.12M
Collection agency fees and other	\$0.05M
Total cost	\$2.77M
Cost to collect (% of revenue)	3.5%

Example 2: Healthcare provider with revenue of \$80M and outsourced RCM operations at 4.5% of collections

Fees to billing company (4.5% of collections)	\$3.60M
Cost to collect (% of revenue)	4.5%

Example 3: Billing company managing RCM operations for providers with \$80 million in total revenue

Labor cost from RCM team	\$1.44M
Technology and vendor costs	\$0.80M
Overhead costs	\$0.30M
Total cost	\$2.54M
Cost to collect (% of revenue)	3.2%
Profit spread on contract (fees less cost to collect)	1.3%

Appendix 2: Example to illustrate best versus worst case scenario

Best case illustration	Worst case illustration
A patient is seen for an office visit. The claim is automatically generated and dropped to a payor. The claim is accepted, adjudicated, paid in full, auto-posted, and closed within 10 days. Labor cost for this claim is negligible and cost to collect is less than 1%.	A patient needs an MRI, requiring prior authorization which is difficult to obtain and initially rejected. The provider submits a prior auth appeal including a peer-to-peer discussion with the ordering physician. The auth is ultimately approved and MRI conducted. The claim is manually coded and re-checked by a supervising coder. On submission, there are multiple issues with the claim. It is initially rejected, requiring re-filing. 20 days later, the claim is then denied for 2 reasons: lack of prior authorization and eligibility. An appeal is prepared and submitted via uploading documents on a portal including proof of prior authorization. No response is received for 30 days. By phone, the payor states they never received the appeal documents, requiring re-submission by fax. 60 days later, the prior authorization is accepted and denial overturned but the claim is denied again, for the other initial reason related to eligibility. The second denial requires additional information from the patient via a phone call. A second appeal is submitted via fax which is denied. A billing manager calls the payor to escalate to a second-level appeal which requires submission of documents by postal mail. A follow up call is required to confirm receipt of documents. 90 days later payment is received, 200 days after the date of initial submission. The cost to collect is approximately \$150 (5 hours * \$30/hr) for reimbursement of approximately \$400, or 37.5% cost to collect.

Appendix 3: Detailed examples of revenue integrity and revenue leakage and the opportunity of AI

Revenue integrity

- ■ ■ **How to fix:** Proper documentation is necessary to ensure compliance. Solutions that target this area often focus on clinical documentation improvement (CDI) to signal to RCM teams that relevant services were performed and can be successful in driving increases in revenue.²⁸⁻³⁰
- ■ ■ **Role for AI:** AI tools are being developed to address this opportunity; vendors in this area have reported significant improvements in coding accuracy³¹; these can be directly part of the clinical workflow or coding workflow, or driven by retrospective audits. A 2025 survey of revenue integrity professionals suggested that in addition to coding, there are many other possible use cases being tested today, particularly auditing.³²
- ■ ■ **Potential opportunity for AI to address:** Unclear. This area requires changes to clinical workflows (e.g., using ambient scribes) and involves many stakeholders, making implementation challenging. Furthermore, a 2025 evaluation suggested it is too early to tell whether there will be a significant financial impact.³³ Previous generations of "charge capture" initiatives suggested up to 1 percent of revenue could be affected.³⁴

Revenue leakage

1) Unresolved claim denials due to payor rules:

- ■ ■ **Share of revenue leakage:** High. Industry experience suggests that 20-30% of revenue leakage is due to unresolved claim denials resulting from payor rules.
- ■ ■ **Role for AI:** Enable claim follow-up, risk-stratify claims in AR, escalate claims needing attention quickly, coordinate task lists, enhance team productivity with knowledge of payor rules and requirements to appeal denials, learn from prior patterns of claim denial, suggest next steps to resolve claim quickly, unify fragmented data and context, prepare and submit appeals²⁵
- ■ ■ **Potential opportunity for AI to address:** Medium (10-25%). Ensuring management appeals are smooth and timely is a cumbersome process. The potential for denials to be overturned if properly managed is high. However, AI would need to outperform legacy processes to have an impact. A 2024 survey suggested the volume and delay from claim denials was increasing and that current technology resources were not sufficient to address the growing problem.³⁵ AI can potentially help surface issues more quickly and accelerate the feedback loop when payor rules change.

2) Unresolved claim denials due to process failures and no response claims:

- ■ ■ **Share of revenue leakage:** Varies. Many providers have introduced significant internal controls to audit and prevent process failures, but mistakes still happen even in high-performing RCM operations (e.g., because patient provided incorrect information at registration). Industry experience suggests 10-50% of revenue leakage is due to unresolved claim denials due to process failures.

-  **Role for AI:** Perform quality checks to prevent errors in processing, predict what events should be happening on the timeline of a claim, escalate claims for human attention, ensure claim is actually received and accepted by a payor.
-  **Potential opportunity for AI to address:** Medium-High (25-50%). If existing audit processes have failed to detect issues, there is a significant opportunity for AI to capture additional revenue.

3) Unresolved patient-level claim denials:

-  **Share of revenue leakage:** Substantial. Industry experience suggests 10-20% of revenue leakage is due to patient level claim denials. In certain cases, however, all care for a given member may be uncollectable. These issues are often traceable to incorrect data or conflicting information collected during the registration process.
-  **Role for AI:** auditing eligibility up front, risk-stratifying patients and payors based on visit information and historical knowledge, engaging directly with patients regarding financial and insurance circumstances
-  **AI ability to address:** Medium (10-25%). Conflicts between potential payors will continue to be a source of complexity in RCM operations. However, AI may be able to help distinguish between small differences in names of health plans or networks that can lead to lost revenue (e.g., Health Plan Advantage Plus vs. Health Plan Advantage Plus Silver).

4) Patient balances and bad debt

-  **Share of revenue leakage:** Substantial. Industry experience suggests 10-30% of revenue leakage is due to patient balances and bad debt. This is also increasing as a share of overall lost revenue as cost-shifting trends to patients continue and propensity to pay decreases.
-  **Role for AI:** estimate and pre-collect patient balances, engage patients through automated communications channels (chatbot, text, etc.); risk-stratify patient balances and escalate for human attention in a timely fashion; resolve some small balances automatically.
-  **Potential opportunity for AI to address:** Medium-High (25-50%). The large volume of patient balances at relatively low dollar amounts and headwinds in this area mean existing processes may need to be strengthened. Consumer-facing language-driven technologies are well developed and can be easily integrated with payment processes (e.g., chatbot provides a link to pay).

5) Underpayments vs. contracted rates:

-  **Share of revenue leakage:** Varies. Industry experience suggests this varies considerably from 0-20% of revenue leakage, depending on contract terms, payor mix and procedure mix.
-  **Role for AI:** check payments against fee schedules and predict a reasonable range for contractual adjustments where fee schedules are not explicit

- ■ ■ **Potential opportunity for AI to address:** Medium (10-25%). Advanced AI can help identify underpayments, but reprocessing and managing claims typically require significant additional human resources. Pricing rules can also be much more complicated than they appear at first glance, after taking into account adjustments, for example, multiple procedures, Medicare sequestration, site of service, provider credentials, quality bonuses, etc.

6) Payment processing failures:

- ■ ■ **Share of revenue leakage:** Varies. Industry experience suggests 0-20% of revenue leakage is due to payment rails and revenue recognition. However, reconciliations are still typically very manual.
- ■ ■ **Role for AI:** bridge between claims management and financial accounting, automate payment posting and flag discrepancies.
- ■ ■ **AI ability to address:** High (50-75%). Reconciling datasets and ensuring the smooth flow of information between finance and revenue cycle data sources is a solvable problem.